



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,290	04/27/2004	Michael Epstein	10945.3801	3289

22235 7590 01/11/2006

MALIN HALEY AND DIMAGGIO, PA  
1936 S ANDREWS AVENUE  
FORT LAUDERDALE, FL 33316

EXAMINER

HAJNIK, DANIEL F

ART UNIT

PAPER NUMBER

2671

DATE MAILED: 01/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/709,290

Applicant(s)

EPSTEIN ET AL.

Examiner

Daniel F. Hajnik

Art Unit

2671

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 April 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to because: Numerical number labels appear to be missing in figure 3. For example, the specification in paragraph [0023] refers to a step 1, block 30 which is not shown. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

2. Claim 3 is objected to because of the following informalities:

- "viewer's" should be "viewer's" in two instances
- "said stereo skew" lacks antecedent basis

The examiner will assume for purposes of examination that this phrase was meant to be "said skew".

Appropriate correction is required.

3. Claims 9-12 are objected to because of the following informalities: Various terms throughout these claims lack antecedent basis i.e. "The apparatus" (claim 9) and "extraction means" (claim 10). The examiner will assume for purposes of examination that claims 9 and 10 were meant to be dependent upon claim 8.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

4. Claims 1 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Garland (US Patent 6515662, herein referred to as "Garland").

As per claim 1, Garland teaches the claimed "inputting three-dimensional graphical data" by teaching of "A buffer memory stores datamap rasters containing monographic datamap images of polygons defined by polygon vertices ... Each vertex has a position in a three dimensional coordinate system" (col 1, lines 50-54). Garland teaches the claimed "Extracting a left stereo image and a right stereo image" by teaching of "left stereoscopic channel ... forming left display rasters" (col 1, lines 56-57) "right stereoscopic channel ... forming right display rasters" (col 1, lines 60-62) where the process of forming involves extraction from a single monoscopic image (col 1, lines

Art Unit: 2671

47-50). Garland teaches the claimed "combining said left stereo image and said right stereo image" by teaching of "for presenting the left and right display rasters containing the left and right display images to the left and right eyes of the observer" (col 13, lines 36-37) and in figure 1A where left and right image channels (10L and 10R) are combined on display (18M).

As per claim 7, Garland teaches the claimed limitation by teaching that the extracted left and right stereo image data (col 1, lines 56-57 and lines 60-62 and see figure 1A, pieces 10L and 10R) is automated by the system (col 2, lines 10-13).

### ***Claim Rejections - 35 USC § 103***

5. Claims 2, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garland.

As per claim 8, the reasons and rationale for the rejection of claim 1 are incorporated herein. Garland does not explicitly teach the claimed "analyzing means for analyzing said 3-D graphical data for the presence of perspective". However, Garland teaches of a "The initial VVP is typically somewhere behind the display screen of monitor 18M, preferably at the vanishing point of the datamap image" (col 4, lines 66-67). One of ordinary skill in art would recognize that such a requirement for a vanishing point would suggest the need to analyze the 3D data first for the presence of perspective where the perspective is tied to the concept of a vanishing point.

As per claim 2, this claim has limitations that follow those within claim 8 in terms of functionality, and thus are subject to the same reasons for rejection.

As per claim 9, Garland teaches the claimed "computer applications software" by teaching of an observer input functionality programmed into a graphics program (col 5, lines 6-10)

6. Claims 3-6 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garland in view of Wang (US Patent 6624813, herein referred to as "Wang").

As per claims 3 and 10, Garland teaches the claimed "convergence point" by teaching of a "vanishing point" (col 4, line 66). Garland teaches the claimed "skew" by teaching of "vertex shift is an X axis displacement" (col 5, line 51). Garland teaches the claimed "left-eye view" and "right-eye view" by teaching of "first virtual viewing point ... for presentation to the first eye" (col 4, lines 21-22) and by teaching of "second virtual viewing point ... for presentation to the second eye" (col 4, lines 25-26) where these viewing points involve projections.

Garland does not explicitly teach the claimed "projection matrix". However, given the first and second virtual view point functionality of the reference it would have been obvious to one of ordinary skill in the art to use projection matrixes to create these viewpoints. Garland further suggest this by teaching of "API 10A for calculating ... the geometry relationships between the datamap vertices" (col 3, lines 65-67).

Garland does not explicitly teach the claimed "deriving near and far depth limits". Wang teaches the claimed limitation by teaching of "Z-buffer which can show the far-and-near distance of an object. It further shows the stereoscopic image onto the display device 19" (col 1, lines 64-66). It would have been obvious to one of ordinary skill in the art at the time of invention to combine Garland and Wang. One advantage to the combination is provided by Garland, which teaches of the need for such data by teaching of a "Z range coordinate" (col 4, line 12), by teaching of "direct visual range perception" (col 1, lines 23-25), and by teaching the use of a reducing "parallax distortion at near ranges" (col 5, lines 31-33).

As per claim 4, Garland teaches the claimed "skew is normalized" by teaching of that the shift that causes skewing in to be related to the spacing (SS spacing) between the virtual viewpoints of the left and right eye (col 4, lines 47-48) and that the SS spacing is based upon a statistical average (normalizing) (col 4, lines 43-45).

As per claims 5 and 11, Garland teaches the claimed limitation by teaching of "stereoscopic spacing mechanism defines a SS spacing (or angle) between the first and second VVPs" (col 4, lines 30-31) where the offset is related to the spacing between the first and second viewpoints (VVPs). While Garland does not explicitly teach the claimed "sine of the angle", it would have been obvious to one of ordinary skill in the art to use such a common and useful function in order to help relate the angle to the related the distance between the eyes of the observer.

Art Unit: 2671

As per claims 6 and 12, Garland teaches the claimed limitation by teaching of "the spacing may be initially defined ... is subject to change by an observer" (col 4, lines 56-59).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel F. Hajnik whose telephone number is (571) 272-7642. The examiner can normally be reached on Mon-Fri (8:30A-5:00P).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka J. Chauhan can be reached on (571) 272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Daniel Hajnik* 11/6/06

DFH

*Ulka Chauhan*  
ULKA CHAUHAN  
SUPERVISORY PATENT EXAMINER